

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

FRKelly
Attn. Boyce, Conor
27 Clyde Road
Ballsbridge
Dublin 4
IRLANDE



NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL SEARCH REPORT AND
THE WRITTEN OPINION OF THE INTERNATIONAL
SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

Applicant's or agent's file reference P94879PC00	Date of mailing (day/month/year) 24/11/2009
International application No. PCT/EP2009/006361	International filing date (day/month/year) 02/09/2009
Applicant FOTONATION IRELAND LIMITED	

1. ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

Filing of amendments and statement under Article 19:

The applicant is entitled, if he so wishes, to amend the claims of the International Application (see Rule 46):

When? The time limit for filing such amendments is normally two months from the date of transmittal of the International Search Report.

Where? Directly to the International Bureau of WIPO, 34 chemin des Colombettes
1211 Geneva 20, Switzerland, Facsimile No.: (41-22) 338.82.70

For more detailed instructions, see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.

3. ☐ **With regard to the protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

- ☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.
☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. Reminders

Shortly after the expiration of **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90*bis*.1 and 90*bis*.3, respectively, before the completion of the technical preparations for international publication.

The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. These comments would also be made available to the public but not before the expiration of 30 months from the priority date.

Within **19 months** from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase **until 30 months** from the priority date (in some Offices even later); otherwise, the applicant must, **within 20 months** from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

In respect of other designated Offices, the time limit of **30 months** (or later) will apply even if no demand is filed within 19 months.

See the Annex to Form PCT/IB/301 and, for details about the applicable time limits, Office by Office, see the *PCT Applicant's Guide*, Volume II, National Chapters and the WIPO Internet site.

Name and mailing address of the International Searching Authority European Patent Office, P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer Dana Schalinatus
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PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference P94879PC00	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/EP2009/006361	International filing date (day/month/year) 02/09/2009	(Earliest) Priority Date (day/month/year) 03/09/2008
Applicant FOTONATION IRELAND LIMITED		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 4 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of:

- ☒ the international application in the language in which it was filed
☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6bis(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (See Box No. II)

3. ☐ **Unity of invention is lacking** (see Box No III)

4. With regard to the **title**,

- ☒ the text is approved as submitted by the applicant
☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

- ☒ the text is approved as submitted by the applicant
☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority

6. With regard to the **drawings**,

- a. the figure of the **drawings** to be published with the abstract is Figure No. 1
☐ as suggested by the applicant
☐ as selected by this Authority, because the applicant failed to suggest a figure
☒ as selected by this Authority, because this figure better characterizes the invention
 b. ☐ none of the figures is to be published with the abstract

INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2009/006361

A. CLASSIFICATION OF SUBJECT MATTER

INV. H04N5/225 G06T7/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

H04N G06T

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2007/263928 A1 (AKAHORI SADATO [JP]) 15 November 2007 (2007-11-15) abstract paragraph [0002] - paragraph [0025] paragraph [0043] - paragraph [0045] paragraph [0056] paragraph [0064] - paragraph [0065] paragraph [0071] - paragraph [0072] paragraph [0078] figures 1-11 ----- -/--	1-15

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- * & * document member of the same patent family

Date of the actual completion of the international search

11 November 2009

Date of mailing of the international search report

24/11/2009

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel. (+31-70) 340-2040.
 Fax: (+31-70) 340-3016

Authorized officer

Schreib, Franz

INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2009/006361

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 2005/076217 A2 (FOTONATION VISION LTD [IE]; DRIMBAREAN ALEXANDRU [IE]; BIGIOI PETRONEL) 18 August 2005 (2005-08-18) abstract page 1, line 7 - line 8 page 2, line 15 - page 3, line 31 page 6, line 17 - page 7, line 4 page 8, line 23 - line 26 page 14, line 16 - line 26 figures 1-11 -----	1-15
A	US 2006/204052 A1 (YOKOUCHI KOUJI [JP]) 14 September 2006 (2006-09-14) abstract paragraph [0002] paragraph [0007] - paragraph [0009] paragraph [0014] - paragraph [0016] paragraph [0036] - paragraph [0038] paragraph [0094] - paragraph [0100] paragraph [0117] paragraph [0125] - paragraph [0130] paragraph [0144] paragraph [0156] - paragraph [0160] paragraph [0171] - paragraph [0172] paragraph [0196] figures 1-31 -----	1-15
A	GAUBATZ M ET AL: "Automatic red-eye detection and correction" PROCEEDINGS / 2002 INTERNATIONAL CONFERENCE ON IMAGE PROCESSING : 22 - 25 SEPTEMBER 2002, ROCHESTER, NEW YORK, USA, IEEE OPERATIONS CENTER, PISCATAWAY, NJ, vol. 1, 22 September 2002 (2002-09-22), pages 804-807, XP010607446 ISBN: 978-0-7803-7622-9 page 804 - page 805 -----	1-15

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2009/006361

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
US 2007263928	A1	15-11-2007	JP	2007305030 A	22-11-2007
WO 2005076217	A2	18-08-2005	EP	1714252 A2	25-10-2006
			IE	20050052 A2	21-09-2005
			JP	2007525121 T	30-08-2007
US 2006204052	A1	14-09-2006	NONE		

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT EP2009/006361

International filing date (day/month/year)
02.09.2009

Priority date (day/month/year)
03.09.2008

International Patent Classification (IPC) or both national classification and IPC
INV H04N5/225 G06T7/00

Applicant
FOTONATION IRELAND LIMITED

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office

D-80298 Munich
Tel. +49 89 2399 - 0
Fax: +49 89 2399 - 4465

Date of completion of
this opinion

see form
PCT/ISA/210

Authorized Officer

Schreib, Franz

Telephone No. +49 89 2399-7114



**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/EP2009/006361

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of:
 - ☒ the international application in the language in which it was filed
 - ☐ a translation of the international application into , which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1 (b)).
2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43bis.1(a))
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ on paper
 - ☐ in electronic form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in electronic form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
4. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/EP2009/006361

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	<u>1-15</u>
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	<u>1-15</u>
Industrial applicability (IA)	Yes: Claims	<u>1-15</u>
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Re Item V

1 Reference is made to the following documents:

- D1 US 2007/263928 A1 (AKAHORI SADATO [JP]) 15 November 2007
(2007-11-15)
- D2 WO 2005/076217 A2 (FOTONATION VISION LTD [IE]; DRIMBAREAN
ALEXANDRU [IE]; BIGIOI PETRONEL) 18 August 2005 (2005-08-18)

2 The present application does not meet the criteria of Article 33(3) PCT,
because the subject-matter of claim 1 is not inventive.

2.1 Document D1 is regarded as being the closest prior art to the subject-matter
of claim 1, and discloses:

A digital camera including an apparatus that detects and corrects red eyes in
captured images (*see paragraphs 2 and 78*), the apparatus
comprising:

a partial-face detector for identifying one or more partial face regions within
the digital image (*see paragraphs 9, 24, 42-44 and Fig. 1: First faces are detected and then on the basis of the detected faces red eyes. As eyes are a part of a face a partial face detector is implemented in D1*); and

a red-eye filter for modifying an area within the digital image indicative of a
red-eye phenomenon based on an analysis of a subsample representation
comprising the one or more partial-face regions identified within the digital
image (*see paragraphs 43, 44, 64, 65 and Fig. 3A-3D and Fig. 1, reference 50: The red-eye correcting means of D1 is the red-eye filter of the application. As can be seen in Fig. 3a-3D the detection process uses low resolution images. These images are subsampled versions of the entire image.*).

2.2 The subject - matter of claim 1 therefore differs from the teaching of D1 in that
details of a digital camera like flash and optical system are not disclosed.

These features of a digital camera are well known by the person skilled in the
art. Document D2, which also discloses a camera with the feature of red-eye
correction, discloses in Fig. 1 and on page 6, lines 3-27 these basic features
of a digital camera.

Hence a person skilled in the art arrives at the subject-matter of claim 1 without an inventive step by combining the teachings of D1 and D2.

- 3 Dependent claims 2-15 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step for the following reasons:
 - 3.1 D1 discloses in paragraph 43 that low resolution images are used for the image analysis process. Also D2 discloses on page 6, line 28 - page 7, line 4 that subsampled images are used for image analysis. Therefore the subject-matter of claim 2 is not inventive.
 - 3.2 D1 discloses in paragraph 72 that a plurality of faces is tracked. Therefore the subject-matter of claim 3 is not inventive.
 - 3.3 Claims 4-9 disclose the implementations of the red-eye detection which are disclosed in D1.
 - 3.4 D2 discloses on page 3, lines 13-14 the application of spline and bi-cubic interpolation for subsampling. Therefore the subject-matter of claims 10 and 11 is not inventive.
 - 3.5 According to D2, page 3, line 2 the red-eye filter comprises a plurality of sub-filters. Therefore the subject-matter of claim 12 is not inventive.
 - 3.6 The subject-matter of claim 13 is disclosed in D2, page 3, lines 2-7.
 - 3.7 The subject-matter of claim 14 is disclosed by D2, page 6, lines 17-21.
 - 3.8 The subject-matter of claim 15 is disclosed in D2, page 6, lines 21-22

Re Item VIII

- 4 The application does not meet the requirements of Article 6 PCT for the following reasons:
 - 4.1 The term "partial face region" in claim 1 is not clear. Detecting an eye in an image also can be understood as detecting a partial face region. Therefore the vague term "partial face region" has the effect that also prior art which does not have the two step approach of face detection and red eye detection but only the one step approach of eye detection discloses a partial-face detector.
 - 4.2 In claim 13 it is not clear whether the criteria for selecting the subsampling all have to be fulfilled (and-condition) or whether only one criterion has to be fulfilled (or- condition).